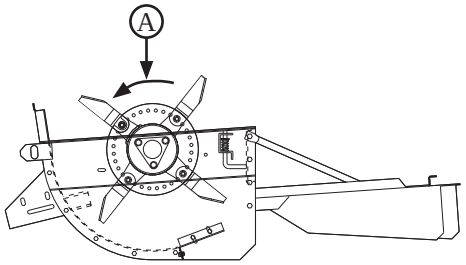
REDEKOP™
Straw and Chaff Management

John Deere
Walker MAV - 300/310
Rotor and Floor Upgrade Installation Guide

RD001-01
MAR 2011

ROTOR BLADE

IMPORTANT! The paddle blades, located on the balance rings inside the chopper, must be installed in the direction shown (A). The straight edge of the blade cuts the air while the paddle trails behind & pushes the air.



1. The blades for your chopper must be installed as outlined.
Note: If blades are installed other than as directed, damage to the chopper may result or performance may be significantly reduced.

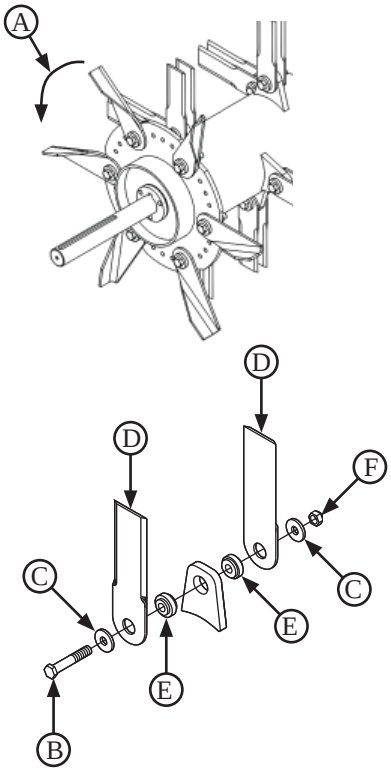
1) Always replace blades two pairs at a time, directly opposite each other through the center of the rotor. This should maintain rotor balance. **Never replace only one blade for wear or breakage.** You do not need to replace the corresponding two pairs on the other end of the rotor.

2) If a blade breaks and the chopper must be operated without a replacement then the damaged blade and the one directly opposite it must both be removed to maintain rotor balance.

3) Use only METRIC class 10.9 bolts (B) and class 10.9 DIN980V steel lock nuts (F) on the chopper rotor.

4) Use a torque wrench to tighten all M12 nuts to the recommended 69 ft-lb.

5) Always check for adequate clearance between the installed blades and the stationary knives. A minimum of 1/4" is required. Check clearance of all blades, even those that are not replaced. Do not operate the straw chopper unless this clearance is maintained for all blades.



2. Assembly order for blade pairs (B to F).

A - Blade direction
B - Hex cap screw
C - Washer
D - Blade, straight
E - Bushing, straight blade
F - Lock nut

Metric Bolt Torque Table

Property Class	8.8	8.8	10.9	10.9
Nominal Size & Thread Pitch	(Nm)	(Ft-Lbs)	(Nm)	(Ft-Lbs)
M6 x 1.00	8	6	11	8
M8 x 1.25	19	14	27	20
M10 x 1.50	38	28	54	40
M12 x 1.75	66	49	94	69
M14 x 2.00	106	78	150	111
M16 x 2.00	164	121	233	172
M18 x 2.50	226	167	323	238
M20 x 2.50	319	235	457	337

* All values for dry, yellow zinc plated hardware.

CAUTION: Always use METRIC class 10.9 bolts and class 10.9 DIN980V steel lock nuts when installing blades. Allowable torque range for blade mount nuts is 69 ft-lb.

Torque values listed are for general use only, based on the strength of the bolt. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instruction for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

"Dry" means plain or zinc plated without any lubrication.

KIT CONTENTS

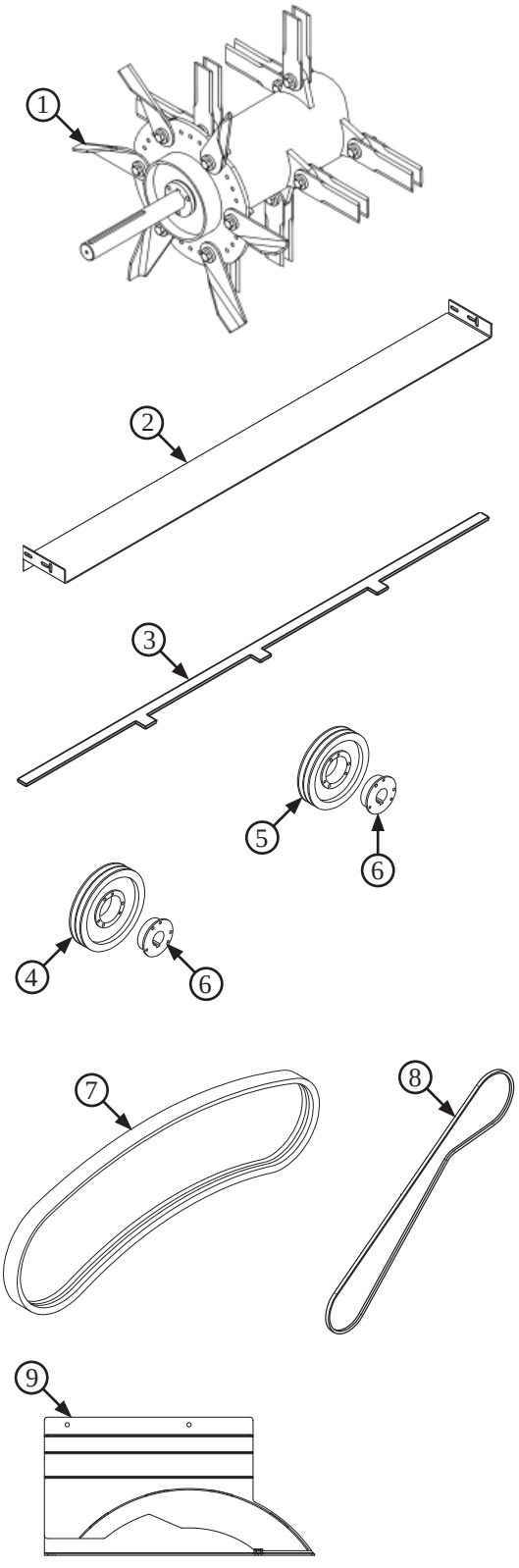
REF	ITEM NAME	ITEM DESCRIPTION	QTY
1	JD W_ROTOR	ROTOR ASSY	1
2	FLR EXT	FLOOR EXTENSION	1
3	KB PLATE	KNIFE BAR PLATE	1
4	SHEAVE	SHEAVE 2B 9.4PD SK HS	1
4	SHEAVE	SHEAVE 2B 11.0PD SK HS	1
5	SHEAVE	SHEAVE 2B 8.6PD SK HS	1
5	SHEAVE	SHEAVE 2B 9.0PD SK HS	1
6	BUSHING	BUSHING SK 1.375ID	1 / 2
6	BUSHING	BUSHING SK 1.295ID	1
7	BELT	BELT 2B173 (2B178)	1
8	BELT	BELT B122	1
9	SHROUD	SHROUD LEFT	1
9	SHROUD	SHROUD RIGHT	1
10	BOX		
	BOX 25 x 14 x 10d		1
	HARDWARE BAG JD MAV		1

OPTIONAL

FIN	FIN, TAILBOARD 31L	2
FLR	FLOOR 1in SP	1
KB	KNIFE BAR 1in SP	1
KB GUARD	KNIFE BAR GUARD	1
CD163K	SHROUD ALIGNMENT KIT	1

NOTE:
The drive update is for the 9500 and 9600 series combines only. The 60 series combines come complete with a double drive and do not require Redekop drive parts.

The tailboard fin is available to order for the JD 9600 series combine.



Rotor (MAV - 300/310)

1. Remove the straw chopper from the combine. (See JD User Manual, Pg 65-5)

2. Remove the drive pulley, the shaft speed sensor disk, and both lock collars from the straw chopper shaft.

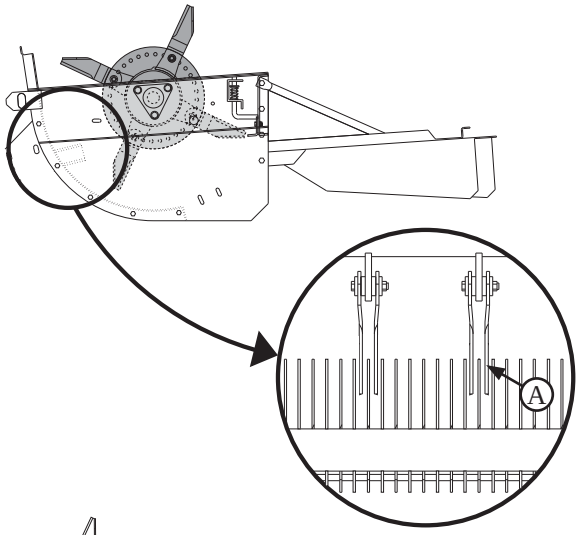
3. Remove both bearings from the rotor.
-Try to avoid damaging the bearings as new bearings are not included in your retrofit kit.

4. Remove drive end wall from the straw chopper to allow removal of the factory rotor.

5. Install the Redekop upgrade rotor into the chopper housing making sure that the blades are oriented in the position shown (A).

6. Reassemble straw chopper. If your chopper does not have sliding tracks, fan shrouds should be installed before mounting chopper.

Before tightening the bearing lock collars, align the rotor so the rotor blades are centered between the stationary blades. After tightening lock collars, recheck each individual blade to ensure that there is adequate clearance between it and the stationary blades.



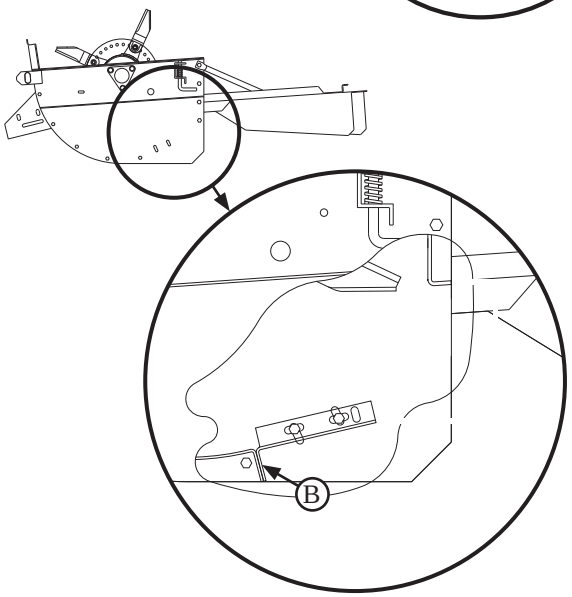
Floor Extension

1. Hold the floor extension in place against the end the the chopper floor as shown (B). Adjust the position of the extension so the residue, when coming off the chopper floor, is angled to hit the top of the fins at the back of the tailboard.

2. Corresponding holes may exist in the chopper side walls that can be used to fasten the floor extension. If holes do not exist they must be drilled.

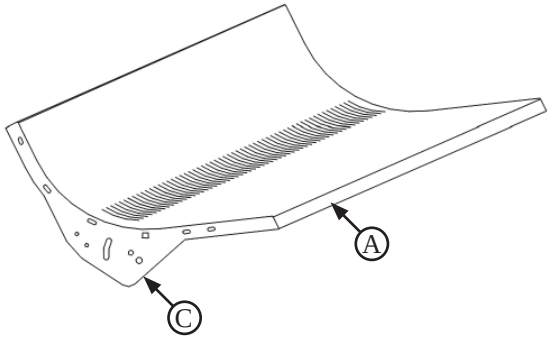
3. Fasten the floor extension to the chopper side walls. See hardware definitions (Appendix:1)
4 - Bolt, Flg M8 x 20
4 - Nut, Flg M8

4. Reinstall the straw chopper on the combine.



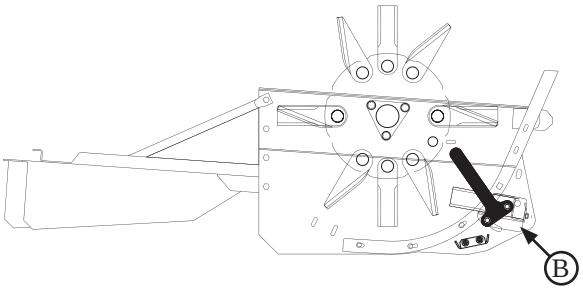
Tight Spaced Floor Upgrade &
Knife Bar (MAV - 310)

Disassemble factory chopper floor and replace with floor upgrade (A). See illustrations for positioning. Use factory hardware to bolt in place.



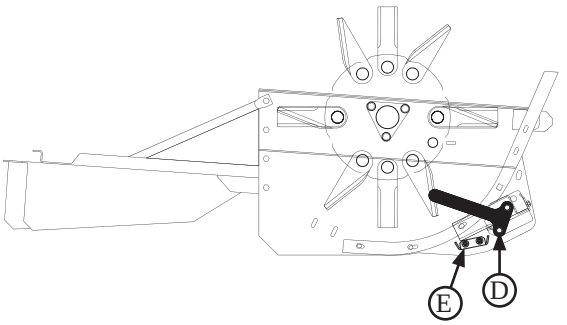
Bolt in upgraded knife bar (B). Place a washer on the inside face of (C) (at the end of the knife bar) and on the outside face of (C) before inserting bolt. **Mount the handle (D) on non-drive side. Be sure to center stationary blades in the middle of the floor slots.** Adjust blade angle to suit your chopping needs and tighten bolts to secure positioning. See illustrations for positioning.

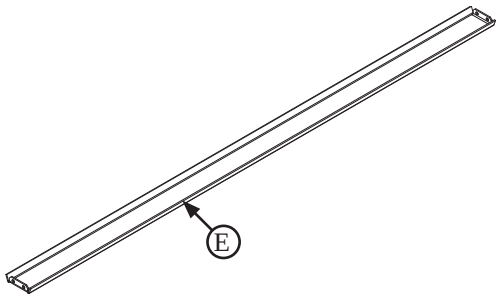
8 - Washer, Flat M12
4 - Bolt M12 x 40



Install the knife bar guard (E). Place the open side of the channel toward the floor of the chopper.

4 - Bolt, Flg M8 x 20
4 - Nut, Flg M8



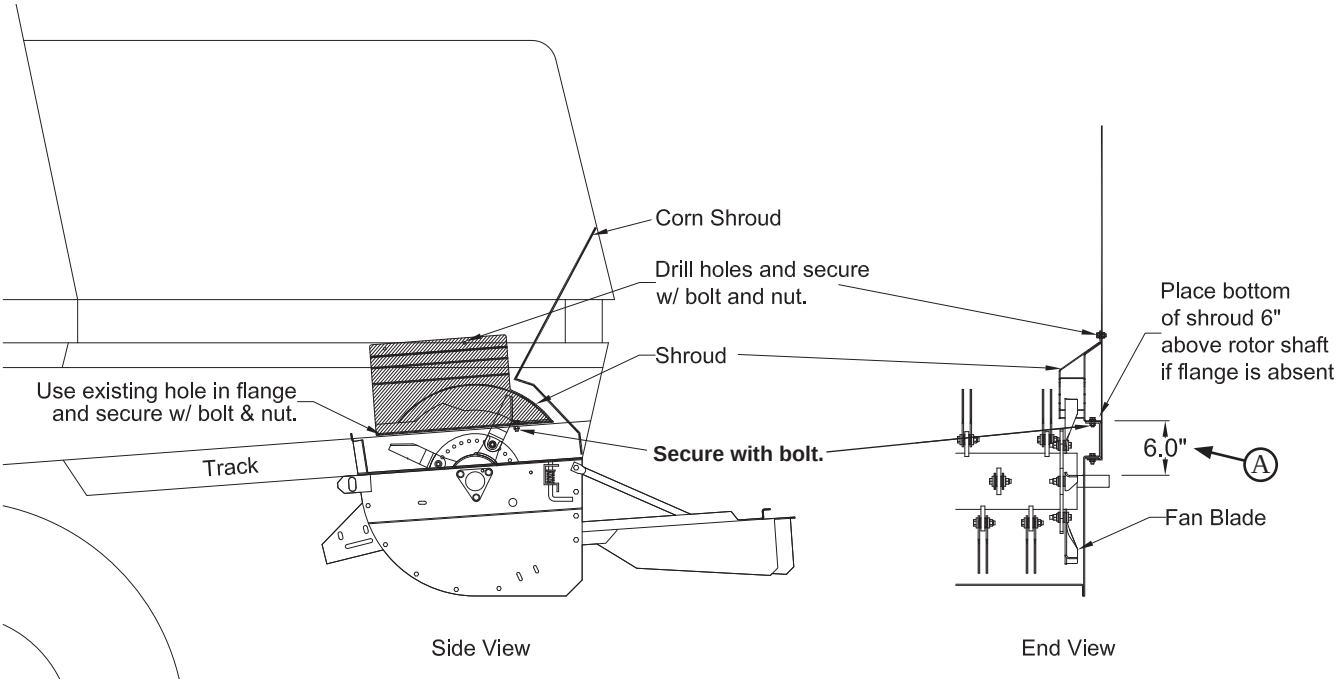


Shroud

For 9500 & 9600 series combines.

Place the shroud directly above the center of rotor, on top of the chopper sliding track and bolt in place. Be sure the fan blades are not able to strike the shroud. If adjustments to the shrouds need to be made slide chopper forward to access shrouds. If your combine is not equipped with a track see note below.

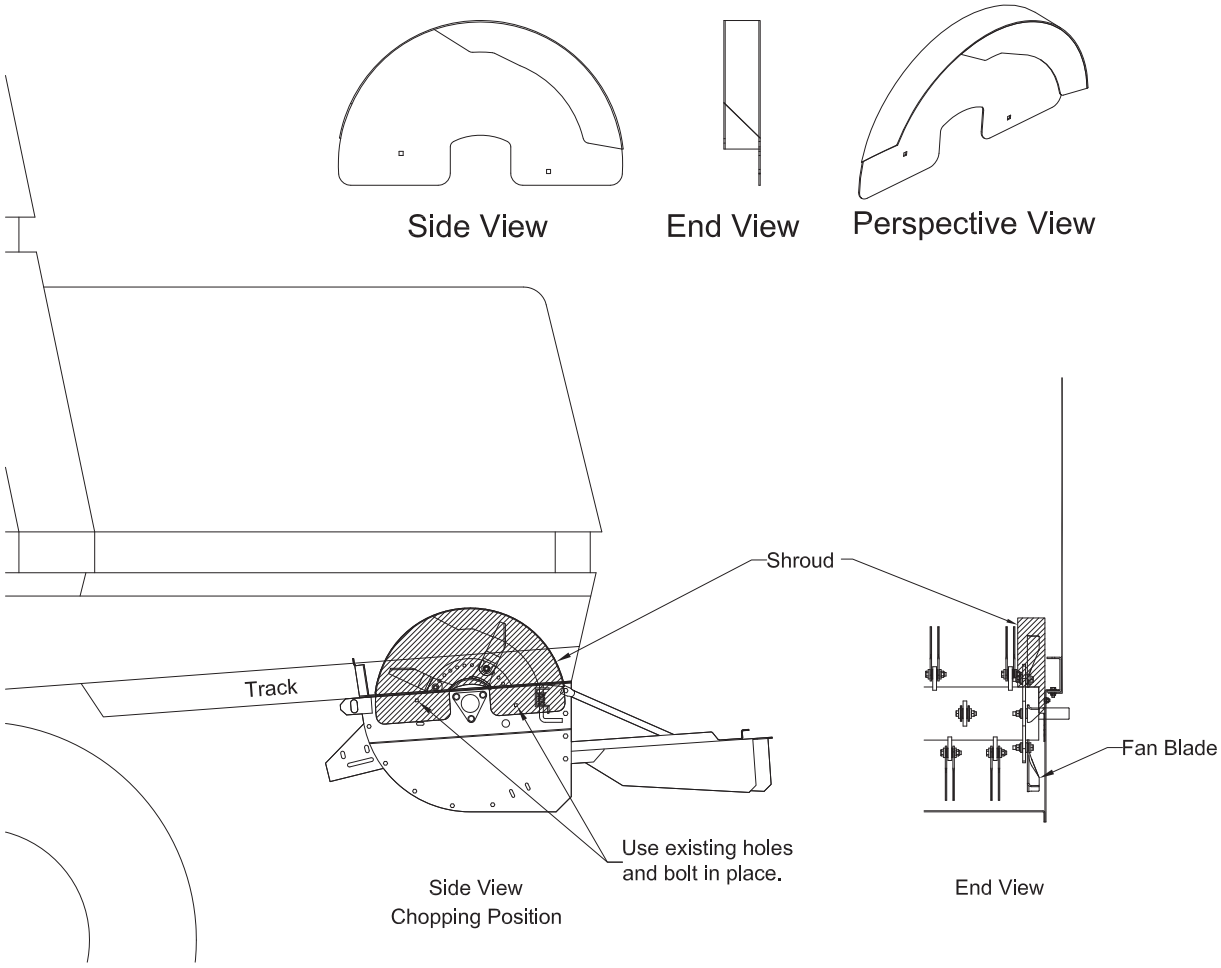
4 - Bolt, Flg M8 x 20
4 - Bolt, Flg M10 x 25
4 - Nut, Flg M8
2 - Nut, Flg M10



NOTE:
If your 9500/9600 series combine does NOT have a track or flange to mount the Redekop shrouds onto install 1.5” angle iron to the inside wall of the combine and place the shroud on top. Be sure the shroud sits 6” above the top of the rotor shaft (A).
or
Contact Redekop to order mount kit - CD163K.

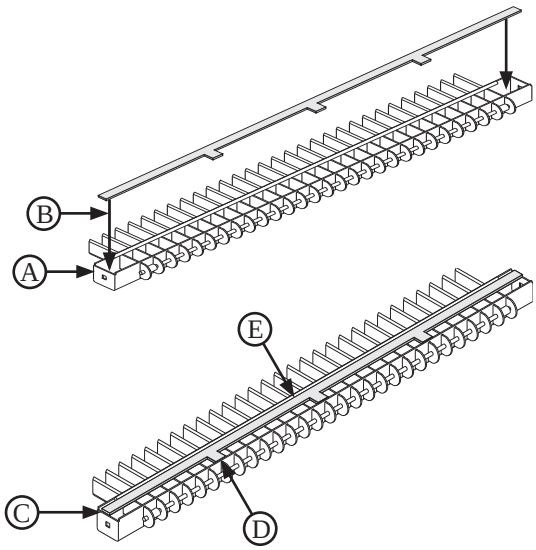
Shroud
For 7720 & 8820 series combines.

Place shroud directly above the center of rotor and bolt to the inside face of the chopper housing.
4 - Bolt, Crg M8 x 20
4 - Nut, Flg M8



Stationary Knife Bar Reinforcment
For factory knife bars with straight stationary blades only.

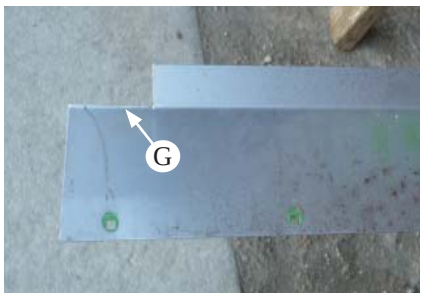
Note:
The parallel blade rotor design used with the Redekop rotor results in higher forces acting on the stationary knives. As a result, the center section of the knife bar can twist, and the knives may eventually cut into the chopper floor. To prevent this possible damage, it is recommended that the knife bar be reinforced as outlined in this section.



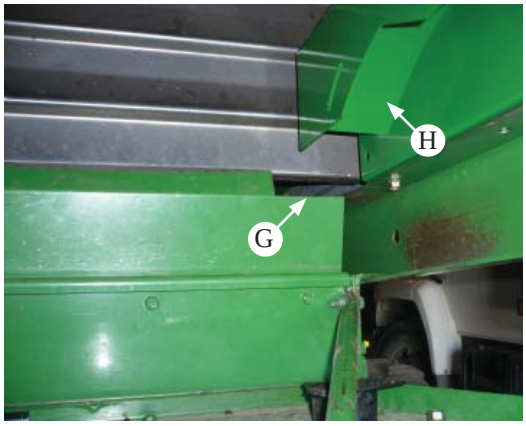
Remove the knife bar from the chopper by removing the bolt at each end of the bar.

Position the knife bar as shown (A) with the open side of the bar facing up. It is this open side that is reinforced.

Place the reinforcement bar on the knife bar as shown (B). The reinforcement bar should rest on the stationary knives. Hold the reinforcement bar against the 3/8" round rod already welded to the knife bar. Tack weld the reinforcement to the round rod in three places. Clamp the knife bar against each reinforcement tab and spot weld at each of the three tabs.



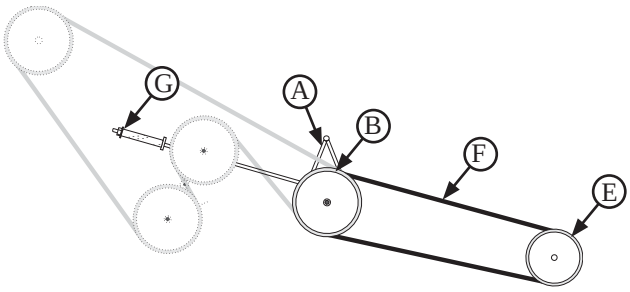
The reinforcement bar should be securely welded to the knife bar at both ends of the reinforcement bar (C), at each of the three tabs (D), and 1.5 inch beads spaced every 6 inches along the round 3/8" rod (E).



Rear Panel
Roll the chopper forward to verify if the rear panel (F) must be modified to clear the newly mounted shrouds (H). If the chopper does not move freely to the windrowing position cut sufficient material off the ends of the panel (G).

Chopper Drive

For combines equipped with the factory single belt drive.



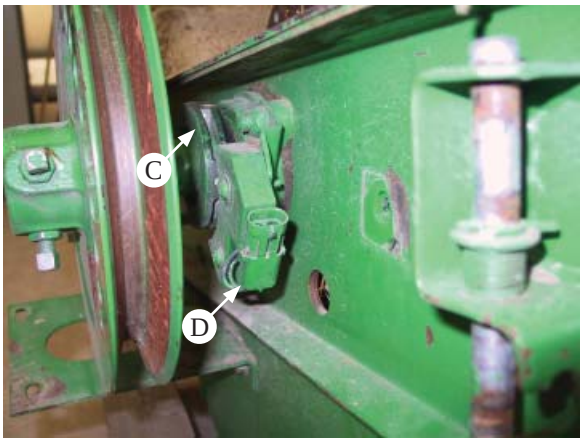
Remove the inside sheave on the combine chopper drive tightener unit (A). Remove the tightener assembly in order to remove the sheave. Replace with a 2B9.4 sheave and SK 1-3/8 bushing (B) and place in the same location as the factory sheave. See Appendix: 2

**JD 9650 1 - Sheave, SK 2B11.0
1 - Bushing, SK 1.295

Install the factory speed sensor collar (C) over the lock collar on the chopper shaft and mount the speed sensor pickup (D) using the rotor bearing bolts. Plug in the wiring to the pickup.

Install the 2B8.6 sheave and SK 1-3/8 bushing (E) on the straw chopper shaft. Do not tighten the bushing at this time.

**JD 9650 1 - Sheave, SK 2B9.0
1 - Bushing, SK 1.375



Install the 2B173 belt (F) between sheaves. Align sheaves for smooth belt operation and tighten bushings.

**JD 9650 1 - Belt, 2B178

Adjust belt tension using the spring tightener (G) unit on the factory chopper drive. Adjust according to instructions provided in the combine operators manual.

Note:
Belt B122 included in your Redekop kit will be required to drive the straw chopper when the chopper is moved forward to the windrow position.

****JD 9650 Belt B122 NOT included in kit.**

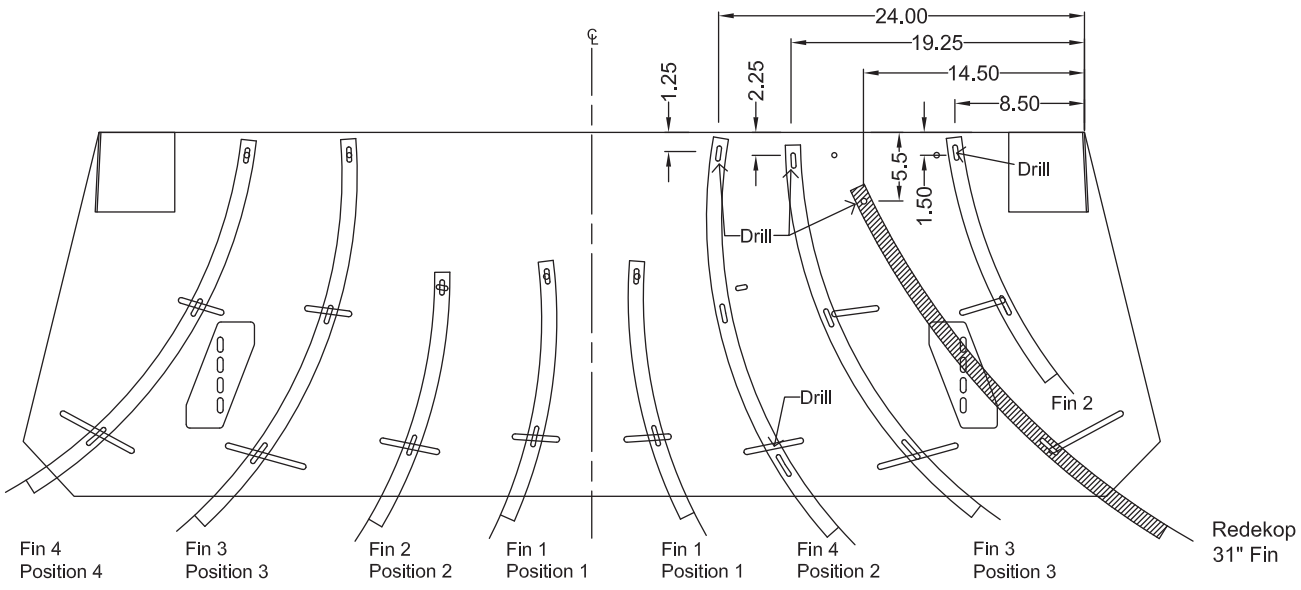
9600 Tailboard Fin Alteration
Available for 9600 series combines.

Order and install the extra fin if your spreading width is unsatisfactory using the factory tailboard. Make the following adjustments if an increased spread width of 30 ft or more is desired.

The factory tailboard is modified to achieve the maximum spreading performance with the Redekop MAV technology by rearranging existing fins and adding one 31" fin. *See illustration for new hole locations & fin placement.*

Modify tailboard by relocating fins 2 & 4. Place fin 2 in the outermost position, position 4. Drill hole at the front of the fin. Place fin 4 in position 2. Drill holes where needed. Install the 31" long Redekop fin between position 3 & 4.
JD 9600

OLD PATTERN **NEW PATTERN**



Note: All dimensions are in inches.

Note:
Check all fasteners to ensure they have been properly tightened. When starting chopper, be sure all people are clear of the rear of the combine.

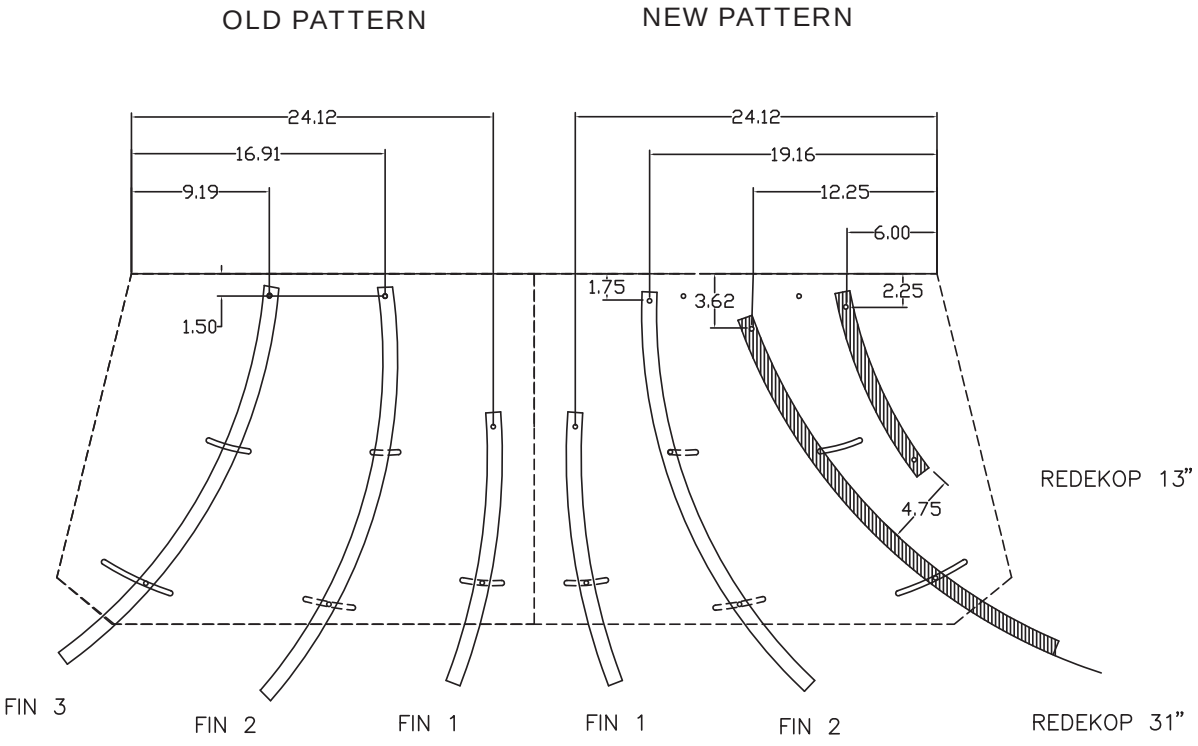
Start threshing module in low speed & listen for clearance problems. If a knocking noise is heard stop machine immediately! Fix problem & repeat procedure. Progress to full power when everything is running smoothly at lower speeds.

9500 & CTS Tailboard Fin Alteration
Available for 9500 & CTS series combines.

Order and install the extra fins if your spreading width is unsatisfactory using the factory tailboard. Make the following adjustments if an increased spread width of 30 ft or more is desired.

The factory tailboard is modified to achieve the maximum spreading performance with the Redekop MAV technology by rearranging existing fins and adding two 31” fins & two 13” fins. *See illustration for new hole locations & fin placement.*

Drill new front holes for fin 2, Redekop 31” and Redekop 13”. Use existing rear holes for fin 2 and Redekop 31”. Measure and drill rear hole on Redekop 13” fin with reference to the 31” fin.



Note:
Check all fasteners to ensure they have been properly tightened. When starting chopper, be sure all people are clear of the rear of the combine.

Start threshing module in low speed & listen for clearance problems. If a knocking noise is heard stop machine immediately! Fix problem & repeat procedure. Progress to full power when everything is running smoothly at lower speeds.

Appendix: 1 - Hardware Classification

B##	**Bolt - Imperial**	
	HEX	Bolt Hex Head
	FLG	Bolt Hex Flange Head
	RH	Bolt Round Head, Carriage
	CS	Bolt Countersunk
N##	**Nut - Imperial**	
	JAM	Nut, Jam
	LOCK	Nut, Lock
P##	**Pin - Imperial**	
	ROLL	Pin, Roll
	COT	Pin, Cotter
	HITCH	Pin, Hitch Clip
	LYNCH	Pin, Lynch
	CLEVIS	Pin, Clevis
	SPIROL	Pin, Spirol
W##	**Washer - Imperial**	
	FLAT	Flat
	LOCK	Helical Lock
	FEN	Fender Washer

B##M	**Bolt - Metric**	
	HEX	Bolt Hex Head
	FLG	Bolt Hex Flange Head
	RH	Bolt Round Head Carriage
	CS	Bolt Countersunk
N##M	**Nut - Metric**	
	JAM	Nut, Jam
	LOCK	Nut, Lock
P##M	**Pin - Metric**	
	ROLL	Pin, Roll
	COT	Pin, Cotter
	HITCH	Pin, Hitch Clip
	LYNCH	Pin, Lynch
	CLEVIS	Pin, Clevis
	SPIROL	Pin, Spirol
W##M	**Washer - Metric**	
	FLAT	Flat
	LOCK	Helical Lock
	FEN	Fender Washer

Description: BOLT HEX .5 X 1 GR5 UNC

Type = Hex — Diameter = 0.5 inch — Imperial Spec = GR5 UNC — Length = 1 inch

Hardware Diameter	Wrench Size
1/4in Hardware	7/16in
5/16 Hardware	1/2in
3/8 Hardware	9/16in
1/2 Hardware	3/4in
5/8 Hardware	15/16in

Description: BOLT HEX M8 X 40 C8.8

Type = Hex — Diameter = 8mm — Metric Spec = C8.8 — Length = 40mm

Hardware Diameter	Wrench Size
M6 Hardware	10mm
M8 Hardware	13mm
M10 Hardware	15mm or 16mm
M12 Hardware	18mm or 19mm
M16 Hardware	24mm

Appendix: 2 - Taper Hub Installation

IMPORTANT: DO NOT USE LUBRICANTS IN THIS INSTALLATION

To Install Bushing:

1. Remove all paint, oil grease, etc. from tapered surface of bushing and bore of mating part.

2. See **Standard** mounting assembly - Figure 1.

NOTE: If bushing does not slide freely on shaft, wedge a screwdriver blade into the saw cut and the flange OD to open the bore of the bushing. Caution: Excessive wedging will split the bushing.

3. **Standard Mount** – Slide bushing on shaft, flange first. If using the setscrew, snug it against the key. **Excessive Torque will cause mating part to be eccentric.** Position mating part in place on bushing aligning drilled holes in mating part with tapped holes in bushing flange. Using lock washers, install capscrews thru the mating hub and into the bushing flange. (**Note:** S bushings can only be Standard Mounted. Be sure the three tapped holes in the mating hub **do not** align near the bushing saw cut. If they do, rotate the bushing 60 degrees.).

4. **Use A Torque Wrench.** Tighten all capcrews evenly and progressively in rotation to the torque value listed in the table. **Excessive wrench torque, closing the gap between the bushing flange and mating hub, or the use of lubricants will break the mating hub.**

To Remove Bushing:

1. Loosen and remove all capscrews.

2. For **Standard Mount**, thread capscrews into tapped holes in mating part to jack against bushing flange. Tighten bolts evenly and progressively in rotation to separate the two components.

3. Loosen setscrew to slide bushing from shaft.

Standard Mounting

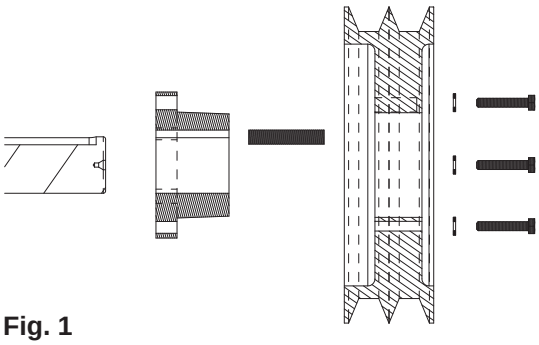


Fig. 1

Screw Tightening Information

Tapered Bushing	Size & Thread of Capscrew	Ft.-Lbs. To Apply With Torque Wrench
SK	5/16 - 18	15
SF	3/8 - 16	30

WARRANTY

Redekop Manufacturing Co., hereinafter referred to as "Manufacturer", warrants each new Redekop Upgrade sold by the Manufacturer to be free from defects in material and workmanship, under normal use and service, for a period of one (1) year after the date of delivery to the original retail purchaser. The Manufacturer will, at its option, replace or repair, at the Manufacturer's factory, or at a point designated by the Manufacturer, any part or parts which shall appear to the satisfaction of the Manufacturer upon inspection at such point, to have been defective in material or workmanship. This Warranty does not obligate the Manufacturer to bear any transportation charges in connection with the replacement of defective parts.

This Warranty shall not apply to any rotor which shall have been installed or operated in a manner not recommended by the Manufacturer; nor to any rotor which shall have been repaired, altered, neglected or used in any way which, in the Manufacturer's opinion, adversely affects its performance; nor to any rotor in which parts not manufactured or approved by the Manufacturer have been used; nor to any accessories installed on the rotor where the accessory manufacturer has its warranty; nor to normal maintenance or replacement of normal service items.

Manufacturer reserves the right to modify, alter, and improve any rotor or parts without incurring any obligation to replace any rotor or parts previously sold with such modified, altered or improved rotor or part.

THIS WARRANTY, AND THE MANUFACTURER'S OBLIGATION HEREUNDER, IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED, OR OF FITNESS FOR A PARTICULAR PURPOSE, and all other obligations or liabilities, including special or consequential damages or contingent liabilities arising out of the failure of any rotor or part to operate properly. No person is authorized to give any other warranty or to assume any additional obligation on the Manufacturer's behalf unless made in writing and signed by an officer of the Manufacturer.

This Warranty is effective only for the original purchaser.

Redekop Manufacturing Co.
Saskatoon, SK Canada